

Promoting Academic Engagement for College Students with Autism Spectrum Disorder

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Abstract

This paper discusses the characteristics of college students with Autism Spectrum Disorder (ASD), examines the results of a survey of college faculty with regard to their understanding and expectations of students with disabilities (including those on the spectrum), and presents suggested guidelines for facilitating access to the curriculum for all learners, including students with ASD. The article explores challenges faced by professors due to the increasing number of students with ASD entering college. Survey results provide a framework for discussion, followed by recommendations for enhancing student success for college students with ASD.

Keywords: Autism Spectrum Disorder, college students with disabilities, postsecondary education, inclusion

College students with autism spectrum disorders (ASD) often need supports that are above and beyond those typically available. Historically, colleges and universities have not offered sufficient supports to enable students with ASD to succeed academically. Today, with growing numbers of students with ASD and other significant learning differences entering colleges, the gap between the level of college support currently available and the needs of this rapidly increasing population continues to exist (Hart, Grigal, & Weir, 2010). Due to the increased number of students with ASD on college campuses, there is a critical need for effective college support services for young adults with autism (Stodden, Zager, & Hart, 2010; Wolf, Brown, & Bork, 2009). As more students with ASD continue to enter college, faculty will be faced with the responsibility of educating students with diverse learning challenges.

While the Americans with Disabilities Act does not require colleges to continue the K-12 mandate of ensuring student success, the 1978 amendments to the

Rehabilitation Act of 1973 do call for development of models at the postsecondary level to promote inclusion and foster full participation (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013). This paper discusses the characteristics of college students with ASD, examines the results of a survey of college faculty with regard to their understanding and expectations of students on the spectrum, and presents suggested guidelines for engaging all learners, including those on the spectrum, in college classes. The authors' intent is to raise awareness of the needs of students with autism and related learning differences, as well to help guide faculty in engaging all learners.

Postsecondary education environments differ from secondary school environments in numerous ways. Briel and Getzel (2009) suggested that these differences include students having less focused time with their instructor, different expectations regarding independent work, and increased demands related to social and independent living skills. Such differences in the degree of required independence may lead to

difficulties for many students with ASD and intellectual disabilities (Wehmeyer & Patton, 2012).

To begin the process of providing faculty development to help college professors engage students with ASD and related learning challenges more fully in their courses, and to gain an understanding of faculty perceptions about individuals on the spectrum, the authors conducted a pilot survey of college faculty to learn about their experiences with students with learning differences. In order to effectively educate college professors so that they understand and appreciate the unique learning challenges associated with ASD and are able to employ classroom strategies to enable all students to succeed, the first step was to understand the shared experiences of the faculty. This study was supported through a grant from Autism Speaks. The intended outcome was to improve the knowledge base of college faculty, with the goal of enhancing academic success for college students with ASD.

Academic challenges of students with ASD commonly include (a) information processing difficulties, such as limited auditory comprehension especially when confronted with fast-paced language (Alpern & Zager, 2009); (b) poor ability to understand or apply abstract concepts (Bregman, 2005); (c) distractibility and short concentration span (Tsai, 2005); (d) weak organizational skills (Loveland & Tunali-Kotoski, 2005); (e) difficulty understanding subtle cues or body language (Klin, Volkmar, & Sparrow, 1992); (f) poor time management (Wolf et al., 2009); (g) hypersensitivity to particular sounds, smells, and lighting (Heflin & Alaimo, 2007); (h) self-regulation problems (Wetherby & Prizant, 2005); and (i) difficulty with theory of mind, such as understanding reasons for other people's actions (Klin et al., 1992). Specific techniques can be incorporated into inclusive college classes to increase engagement and active participation. It is within the professor's power to foster increased focus on classroom lessons, enable students to be valued contributors, differentiate presentations to reach a greater number of students, assign work that permits students to utilize their particular strengths to complete tasks, and administer tests in a manner that enables all students to demonstrate their level of competence in subject matter.

In summary, students with autism spectrum disorder and related learning challenges present unique and complex learning challenges for college faculty. In order to create a positive learning environment at the college level, it is critical to understand how

faculty view these students and what strategies may prove helpful in engaging students with ASD in their classes. This study investigated the question, *What are the perceptions of college faculty toward students with learning differences?* By gathering information about professors' perceptions of students that exhibit learning and behavior challenges, opportunities for success at the postsecondary level may be enhanced.

Methods

Design and Administration

A preliminary survey of university faculty (Alpern, McKeon, & Zager, 2011) was constructed to better understand how students with ASD and other disabilities were viewed by their professors. Survey items were derived from a review of the literature, in which issues related to academic engagement of diverse learners were identified. Items were worded to elicit responses based on experiences in college classes. Qualitative and descriptive responses were studied to see if they were the same or different than the authors expected. The survey was intended as a first step for gathering information about the faculty's experiences with students with learning and behavior differences.

Content representativeness of the questionnaire design was guided by Mora's (2011) guidelines for writing attitudinal survey questions, which provide a basic framework for capturing salient elements of attitudes being examined. It is recommended that surveys use direct and universally understandable language, limit each statement to one concept, include items that are directly related to attitudes being measured, avoid generalizations and extreme positions, and balance the amount of negative and positive statements. Mora's guidelines were followed in development of the survey to ensure that items included in the instrument reflected the issues being studied so that key issues were examined.

Responses to this questionnaire were used to develop a training manual that would help professors deal with language and learning behaviors of this population. Since professors are not necessarily informed as to the nature of the students' disabilities or a specific diagnosis, the survey asked professors to respond to behaviors that they had observed in students with disabilities in general, not only ASD. The survey was designed to assess behaviors that might typically be seen in adolescents and adults with ASD. Based on a review of literature in the field (Adams, Green,

Gilchrist, & Cox, 2002; Bellon-Harn & Harn, 2006; Brinton, Robinson & Fujiki, 2004; Capps, Kehres, & Sigman, 1998) and on knowledge of the students in a campus program for high-functioning students with ASD, a survey of 17 behaviors that faculty might see in a classroom was developed. These behaviors were related to learning styles, verbal and non-verbal communication skills, and appropriateness of behavior in the classroom. The results of the complete survey can be found in Appendix A (Table A1 and Table A2).

Respondents were asked how frequently they observed a particular behavior and were given the option to respond either *Frequently*, *Occasionally*, *Never*, or *Not Applicable*. Results of this portion of the survey can be found in Table A1. The results of three additional items that questioned professors about adaptations to their teaching style that they had made to accommodate students' alternative learning styles are included in Table 2. They could respond either *Yes*, meaning that they had employed a particular teaching method, or *No*, they had not. Each item allowed the respondent to provide additional comments. The final question in the survey was an open-ended opportunity for additional comments.

The questionnaire was sent by Survey Monkey to faculty members at a private urban university. Rather than sample the faculty, due to the limited size of the faculty population pool, the entire full-time faculty on one campus, consisting of tenured and non-tenured research and clinical faculty was surveyed. Faculty rank information was not included in the survey to encourage more open responding through anonymity. While responders did not provide individual demographic information, institutional reports indicate that approximately 35% of faculty at the university is from minority and underrepresented groups. Of the 121 recipients, 69 completed the survey, representing a response rate of 57%. All percentages reported were calculated by Survey Monkey.

The questionnaire was constructed as the initial step in a funded project to develop a manual to help faculty at the university interact more successfully with students with ASD and other related disorders. An overall picture of faculty experiences with diverse learners was obtained that could guide development of a manual crafted for faculty at the university. As such, descriptive data were gathered related to types of interfering behaviors exhibited by students whom professors believed to have learning challenges. These data were examined to discern

the most frequent types of challenges encountered, as reported by respondents, and also the most commonly employed supports that they provided.

Results

Professors' Perceptions of Students with Disabilities

Examination of results revealed that several behaviors were observed more frequently by professors than other behaviors. Between 38% and 58% of the professors' responses indicated that atypical behaviors occurred on occasion in the classroom. Furthermore, by combining the response categories of *Occasionally* and *Frequently* the percentage of respondents who indicated that they observed these behaviors increased to between 42% and almost 85%. There were only two behaviors that professors rated as *Never* seen at a higher percentage rate than the *Occasionally* category. These behaviors were demonstrating "Disrespectful language" and "Insensitive language and behavior." "Disrespectful language" was rated as *Never* observed by 52.2% of respondents and "Insensitive Language" was rated as *Never* observed by 46.4% of respondents. Behaviors that were most often reported as observed could be divided into two categories: Language and communication and executive function. These data support the perceptions that the behaviors listed in the survey represent a valid description of the kinds of communicative and behavioral challenges displayed by college students with ASD.

Language and communication. Frequently observed language and communication problems revolved around classroom discourse: difficulty with asking questions, answering questions, and going off topic in discussion. Professors noted that other students sometimes reacted with "sarcasm and fed-up facial expressions." Not all professors who responded to the survey perceived these behaviors negatively or expressed difficulty dealing with the problem, as indicated in the following two quotes: "Other students usually bring the discussion back on track, or I may suggest that the tangent is actually worth our exploring" and "This is not a bad thing, as it allows open discussion and thinking. I always corral them and return to the topic." Having difficulty understanding complex, nuanced information was also a frequently observed characteristic. Interestingly, several professors commented that this problem is characteristic of many of the students, not just those with disabilities.

Executive function. In the area of executive function, most frequently observed behaviors included distractibility, disorganization and/or poor time management, lack of impulse control, and unusual non-verbal behaviors (e.g. eye contact, fidgeting, posture, etc.). Examples of behaviors observed as described in the comments section included calling out in class, yelling at other students for sneezing or making noise, leaving class to answer the cell phone, and napping on the desk. Additionally, examples of difficulty with organization, attention, and comprehension were reflected in the following quotes from professors who responded to the comments section of the survey:

At the beginning of the semester, he showed poor time management in his labs. The student would only get 25% of the assignment done. But, with time...he did catch up and was able to keep pace with the other students.

Some students would ask questions that were plainly answered on the syllabus or online. They could not always comprehend what was assigned for that day's class despite multiple repetitions and the instructions being plainly listed online and in the syllabus.

An analysis of the professors' comments following each question and at the end of the survey offered additional information. Many professors indicated that their response applied to only one student in particular, not necessarily all students with disabilities that have been in their classes. Others indicated that they did not always know if the student had ASD or not. Another frequently made comment was that it was not just students with disabilities who demonstrated the problems described. There was a sense from a few respondents that many of today's students are disorganized and unprepared for the demands of college. One professor suggested that the inability to think critically "might be a hallmark of this generation." Many professors responded that having students with learning differences in their classes was a positive experience and that some outperformed the other students in the class.

Students with learning disabilities may be very bright, participate well, and in general, do well with the accommodated testing. The students certainly changed my stereotype of autistic people. I had always thought of them as somewhat remote,

un-related, un-responsive, etc. The two I had this semester were extremely friendly and related, to me and the other students. One is so connected that he has been hired as a freshman orientation leader. He will do a fine job. I think the support and tutorial services offered to the students are extremely helpful and important to them.

Professors' Teaching Strategies

The second part of the questionnaire asked professors if they had utilized the following supports for maximizing student access to the curriculum: adapting instructional styles and class activities; providing support for long-term assignments; allowing rewrites, first drafts, or other forms of writing supports; and/or providing extra opportunities for individual conferencing. Responses indicated that the majority of professors used these teaching strategies. Fifty percent reported adapted instructional styles, more than 66% provided support for long-term assignments and allowed re-writes; and 81% reported providing extra opportunities for individual conferencing. Professors reported implementing accommodations determined by the disabilities office such as extra time for exams, providing quiet places to take exams, and utilizing note-takers. Use of technology including Blackboard and on-line materials was also mentioned. One professor mentioned having students repeat directions back orally in one-on-one sessions, providing alternate assignments, and asking the student to let him/her know what the student felt would help. Responses such as the following were typical:

Although I haven't had any students with autism in the classroom, that I am aware of, I use a variety of teaching techniques- Power Point, group work, paired discussion, homework, Q & A, minute papers, etc. to reach different learners. I frequently help students with re-working their projects- not only for my classes. I provide extensive instructions on all major projects, including a grading rubric to guide their understanding. I keep an open, engaging classroom to keep interest levels up. I work with students on time management. Because I work with adults coming from work to class via public transportation or long commutes, I am not a stickler for timely arrival. And usually, most students are on time and those that are having delays notify me in advance. (Isn't texting great?)

One possible interpretation of the high percentage of professors utilizing teaching adaptations is that the research site is a very teaching-oriented campus. Numerous workshops are offered to faculty to refine instructional methods using technology and writing enhanced curricula. Syllabi are required to have learning outcomes and a clear statement of grading methodology. Student mentoring is encouraged. These results may not be typical of all university environments. Another interpretation may be that the faculty who responded to the survey were more attuned to the needs of students with disabilities. Others responded to questions by stating not what they had observed but with what they knew about ASD.

Discussion

Implications for Faculty Training

In spite of the apparent utilization of a variety of teaching methodologies, a number of respondents indicated that they would like more help with meeting the needs of these students through faculty training. They felt that not only would it be helpful to learn approaches to improve access to the curriculum but that knowing more about the individual student problems would be helpful as well. One respondent felt that accommodations did not always fit the curriculum, the course, or the students' needs. Another indicated that he or she had read about autism but needed "instruction in how to incorporate students with it into my classes." On a positive note many professors were anxious to "learn new ways of reaching students and helping them to achieve."

Based on results of the pilot survey, it can be concluded that training for both the students and the professors should focus on improved classroom strategies especially in the areas of organization, time management, classroom discussion, and appropriate behaviors. Support for language disabilities may also be required for some students based on difficulty asking and answering questions and comprehending abstract linguistic information. The types of learning activities described in this paper that help students with ASD are likely to benefit all students in the class (Rose, Harbour, Johnston, Daley, & Abarbanell, 2008). Specifically, in-class techniques can increase knowledge acquisition and increase learning by (a) presenting information to foster understanding, (b) differentiating activities and assignments to increase engagement, (c) designing group

work to enable all students to be active participants, (d) directing students to focus on salient information, (e) helping students ask questions and communicate in class, (f) scaffolding instructional activities to enable students with information processing challenges to understand tasks, and (g) designing tests that provide opportunities for students to demonstrate their knowledge

Limitations

While this survey provided some important preliminary information about both the performance of students with disabilities such as ASD in the college classroom and professors' perceived abilities to respond to their language, learning, and behavioral challenges, there were some limitations to the amount and kind of information that this instrument could provide. Specifically, based on feedback from prior surveys at the university, it was determined that the time needed to complete the survey would be relatively brief so as not to discourage professors from responding. In so doing, the scope of and depth of items in the survey were at a pilot level, intended as an initial step in beginning to understand and support faculty at this one university, rather than to generalize to a wider range of universities. A future step will be to distribute a second survey with additional questions to a group of diverse universities, factor analyze the items and compare the obtained responses in order to identify perceptions and attitudes across universities.

It would be helpful if professors could identify their area of teaching expertise so that it could be determined if the responses were from a cross-section of disciplines rather than only areas where some knowledge of ASD might be expected, such as psychology or education. For example, do individuals from areas such as business or the arts respond differently from others? Secondly, an estimate of the number of students the respondents were basing their replies on would help to determine if the behaviors observed were typical of a smaller or larger sample of college students. It would also be useful to have a question that more specifically asks what the college professor needs in the way of support. Finally, while many professors report use of alternative teaching strategies, it would be informative to have a way to measure the effectiveness of these strategies from the students' point of view.

Recommendations for Practice

College professors have the opportunity to support

students with ASD by utilizing teaching methods that can increase accessibility. When working with young adults in a college setting, accessibility is often the challenge of both the student and the professor. As noted in the literature and in this study's results, college students with ASD face challenges to learning related to processing complex or nuanced language, developing and maintaining social relationships, organizing and managing time, communicating intent, taking listener perspective and being flexible to change. Despite these challenges, college faculty have many pedagogical tools at their disposal that may help minimize barriers created by students' learning and communication disorders.

Implications for College Classrooms

A number of barriers to providing accessible instruction to students with ASD can be ameliorated when their complicated executive functioning and communication needs are better understood and when strategies to improve access are applied. Executive function is a set of skills necessary to complete both simple and complex tasks of everyday life, such as getting to work on time, planning for the day or for future projects, and adapting or developing new approaches when plans change or initial attempts to achieve goals are unsuccessful.

As evidenced by the results of the faculty survey, more than 50% of respondents reported observing some degree of disorganization and/or poor time management in students with ASD. To function successfully in the academic setting one must be able to attend, initiate, and plan ahead. To do so requires organization of resources and time and the ability to generalize a set of skills to a variety of different situations. If a student is unable to control attention and/or distinguish relevant from irrelevant information as a result of executive functioning difficulties, he/she may have difficulty completing assigned tasks or comprehending instruction.

Limited executive functioning skills also contribute to disorganized communication, another area of difficulty reported by survey respondents. As demonstrated by responses to the survey and by research on language competence in adolescents and adults with ASD, (Alpern et al., 2011; Hewitt, 2011; Paul, Orlovski, Marchinko, & Volkmer, 2009), the ability to communicate succinctly, sequence spoken and written answers, engage in discourse, and ask/answer questions are significant challenges for many college

students with ASD. In the classroom, these students may respond off-topic, repeat what has already been said and/or communicate without providing enough context for the listener. Students with ASD may monopolize the discussion, call out in class, or have difficulty understanding alternative viewpoints. In the classroom, students with ASD often have difficulty sorting out background noise, a buzzing light, or another student talking in order to process the important lecture or discussion that is occurring. According to Zager et al. (2013) students with ASD may also have difficulty in classes that do not have an explicit organizational structure, require on-the-spot demand for responding or are fast-paced with multiple changes in content. College students with ASD experience challenges in time management, organization related to school work and daily life activities and sustaining focus for completing tasks both in and out of school. These students often are challenged by personal and/or social space conventions, leaving them at a disadvantage socially. It is not surprising then that a hallmark of ASD is limited social engagement.

Instructional Strategies

There are multiple options faculty members and other campus professionals can use to respond to the needs of students with ASD, such as embedding technology, modifying the physical environment, and adapting teaching styles. These approaches have the potential of increasing all students' access to the curriculum. Most postsecondary institutions have offices of disability services that offer student support and information to faculty. Students should be encouraged to communicate their individual needs to faculty prior to the beginning of the term. Professors can support students by identifying any instructional strategies they are willing to utilize to enhance that student's access to course content and activities. Students may benefit from using high and low tech strategies to facilitate organization and time management skills (Rose et al., 2008). Professors can organize their classroom, assignments and syllabi in ways that increase focus and improve comprehension for students with ASD (Iovannone, Dunlap, Huber, & Kincaid, 2003).

What follows are some strategies that offer the potential of increasing access for a wide range of learners, including students with ASD. Sample forms for implementing many of these strategies can be found in Appendix B.

1. Organizing the classroom

- Use a portion of the first class to teach your specific organization (use of the white board, structure of the syllabus, etc.).
- List in-class assignments on the same side of the white board each class day.
- List homework/project assignments on the opposite side each class day.
- If there are NO assignments for a given day, indicate that by writing NH.
- If there are windows in your room determine if the light/sound is affecting students and modify.
- Any changes in schedule should be announced ahead of time both verbally and in writing.
- Written reminders on the board in a different color will enhance the recall of information.
- Be clear on rule use in your classroom (verbally and in writing): what to call you, technology use, attendance, etc.

2. Organizing the lesson

- Create a syllabus that is not text heavy (see Appendix B).
- Give verbal and written reminders (daily or weekly) about what will be covered in class.
- Provide a copy of lecture notes for review/preview purposes.
- Use visual charts for homework and/or in-class assignments.
- Inform students of online site use (e.g., Blackboard).
- Begin the lesson with a preview statement ("Today we will be discussing...").
- End each lesson with a review statement ("Today you discovered that...").
- Break down complex assignments into smaller chunks.

3. Design hand-outs, exams, Power Point slides to increase focus

- Review project due dates regularly.
- Create exams in a style that is consistent with how information is presented in class.
- Keep information on Powerpoint slides to a minimum. Use a font size that is large enough

to be seen in the last row.

- Use bold print and/or highlight important dates, information, etc.

4. Use visual organizers with explicit information

- Compare/contrast charts to organize lecture notes.
- Problem/solution charts to facilitate perspective taking and alternative viewpoints.

5. Provide frequent and varied assessment of performance to increase feedback

- Give shorter, more frequent exams.
- Use a variety of question types on each exam (multiple choice, essay, T/F, etc.).
- Use rubrics as guidelines for grading and improvement.
- Vary the type of assessment tool used (e.g., project based vs. oral assignment).

6. Promote collaboration and social engagement

- Use group based learning.
- Assign peer-buddies for in-class assignments.
- Assign and define roles within the group.
- Encourage information sharing using online resources.

Implications for Disability Service Providers

Disability service providers play an important role in increasing awareness for both professors and students in a college setting. It is critical that information about potential difficulties and possible supports be made available in a timely fashion to increase accessibility to the learning environment. As evidenced in the results of this survey and in the literature, communication, social skills, sensory differences, organizational, and coping skills are primary areas of concern for the student, professor and service provider in a college setting (Wolf et al., 2009). Disability service providers are encouraged to clearly discuss how classes are organized, the variable schedule of college, and increased expectations for independent functioning with students with ASD. Students and professors, with the help of service providers, would benefit from working together to determine which accommodations can help mitigate

the impact of the student's organizational difficulties. Environmental analysis can be performed by service providers to determine whether there are sensory factors that might impact a student's coping mechanisms (e.g., flickering lights, seat next to a distracting window). Information about these areas of need can be provided to faculty to enhance their understanding of environmental factors that can trigger students' anxiety (Harpur, Lawler & Fitzgerald, 2004).

Conclusion

It is evident that, as the numbers of students with ASD entering college continue to increase, they may often require supports that are typically beyond the current scope of university programs. Faculty who experience a growing number of students with diverse learning needs in their courses, including students with ASD, will benefit from information that expands their knowledge base and supports their use of accessible pedagogical practices. Suggested guidelines provided in this paper could support faculty who wish to adapt their teaching style, modify the learning environment, provide alternate means of instruction and assessment, and offer an engaging curriculum for all learners.

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Appendix A

Table A1

Results of Survey: Behaviors Observed

Behavior	Response Percent				Number of Comments
	Frequently	Occasionally	Never	No Response	
Difficulty learning from lecture format	10.7	56.2	9.1	24.0	21
Difficulty answering questions in class	21.7	58.0	14.5	5.8	10
Difficulty asking questions in class	20.3	55.1	18.8	5.8	8
Limited comprehension of abstract/complex nuanced information	29.0	58.0	4.3	8.7	8
Home assignments do not reflect in classroom learning	11.6	49.3	15.9	23.2	9
Difficulty working in groups	18.8	46.4	13.0	21.7	8
Difficulty understanding alternative points of view	17.4	50.7	17.4	14.5	6
Going off topic in discussions	29.0	43.5	14.5	13.0	8
Monopolizing class discussion	14.5	53.6	21.7	10.1	6
Lack of impulse control, e.g. calling out in class, leaving room suddenly	20.3	37.7	29.0	13.0	11
Unusual non-verbal behaviors, e.g. eye contact, fidgeting, posture, etc.	20.3	50.7	18.8	10.1	5
Distractibility	26.1	50.7	5.8	7.2	0
Chronic lateness or absence	18.8	46.4	29.0	5.8	8
Disorganization and/or poor time management	29.0	50.7	10.1	10.1	6
Disrespectful language or behavior	2.9	39.1	52.2	5.8	8
Insensitive language or behavior	2.9	44.9	46.4	5.8	4

Table A2

Results of Survey: Teaching Supports

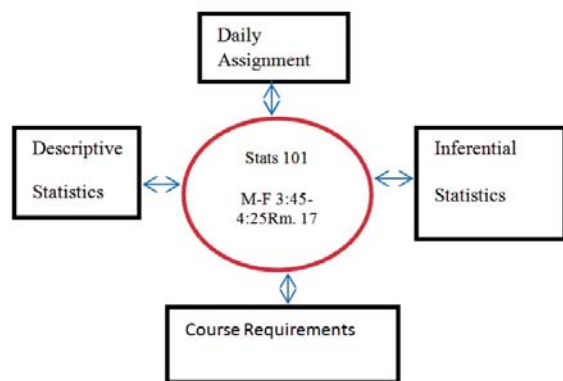
Teaching Supports	Response Percent		Number of Comments
	Yes	No	
Adapting instructional style and class activities	53.1	46.9	24
Providing support for long term assignments	65.6	34.4	29
Allowing rewrites, first drafts, etc.	70.4	29.7	24
Extra opportunities for individual conferencing	81.3	18.8	27
Additional information			29

Appendix B

1. Organizing the Classroom

Monday Problems 1–5 Page 17
Tuesday Problems 10–15 Page 25
Wednesday No homework
Thursday Complete handout given in class
Friday No homework

2. Organizing the Lesson



3. Design handouts, exams, PowerPoint slides to increase focus

3a. Text heavy:

Your team is responsible for preparing a 15-20 minute presentation each semester based on lecture topics. Each of you must speak for a minimum of 5 minutes. Refer to the syllabus for specific topic suggestions. In addition, an abstract describing the presentation is also required. Presentations will be graded based on the rubric attached to the syllabus distributed at the beginning of the semester.

3b. Focused:

Presentation Requirements:

15-20 minutes in length. 5+minutes per person.

Choose 1 topic from the following list.

Submit a 1-page summary of your presentation.

4. Use visual organizers with explicit information

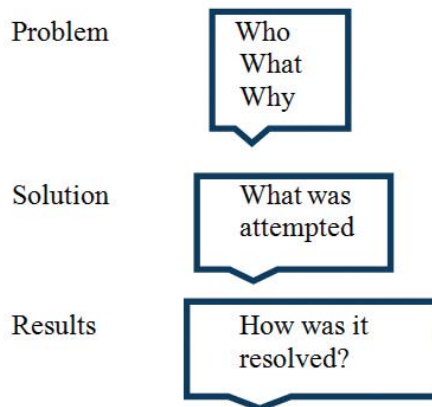
4a. Visual Supports for Assignments

Week	Date of Class	Topics	Required Reading for Class

4b. Compare / Contrast Chart

	TOPIC	TOPIC
Important Concept 1 Important Concept 2 Important Concept 3		

4c. Problem Solution Chart



5. Provide frequent and varied assessment of performance to increase feedback

	Excellent	Competent	Needs Work
Knowledge / Understanding 20%			
Thinking / Inquiry 30%			
Communication 20%			
Use of Visual Aids 20%			
Presentation Skills 10%			

6. Promote collaboration and social engagement by assigning roles.

Facilitator:	Timekeeper:	Recorder:	Researcher:
<ul style="list-style-type: none"> • Moderates discussion • Ensures participation 	<ul style="list-style-type: none"> • Sets agenda • Keeps members on task 	<ul style="list-style-type: none"> • Takes notes • Prepares conclusion 	<ul style="list-style-type: none"> • Acts as liason between group and instructor
Topic(s)	Time frame(s)	Facts / Concepts / Conclusions	Information Needed